AQUARIUS TECHNOLOGIES PTY LTD

Swimming Pool Disinfection Controllers

Sales Bulletin
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Swimmimg Pool Treatment Controllers

The BEST investment you could ever make!!

Owners of major assets with professional swimming pools are usually faced with conflicting demands that are seeking high performance at lowest cost

Aquarius has placed particular emphasis on developing equipment that addresses those needs.

Would you like to own a water treatment controller that will:

- guarantee you safe disinfection levels at all times?
- substantially reduce your water consumption costs?
- effectively drive down your chemical costs?
- cut your energy costs?
- reduce your maintenance costs?
- extend equipment replacement cycles?
- reduce exposure and facility downtime?

If you agree, then an Aquarius Controller for your Water Treatment and Disinfection will deliver that promise.

Aquarius Technologies offers a complete range of Swimming Pool Disinfection Controllers to suit a wide variety of service applications. Every Aquarius model has been designed for optimum performance whilst ensuring protection for your customers, your disinfection levels, pH levels, and valuable system and plant.

New generation Aquarius Controllers have application layer software that introduces genuine 'intelligent processing'. The microprocessor chip is programmed to make logical responses to input data and measured observations that will optimize treatment control.

The layered software installed in the controllers is the product of years of experience gained through our continued commitment to research and development, an understanding of the water treatment professionals objectives and the analysis of past equipment performance using our flagship KPI monitoring & controlling platform.

Aquarius have brought the best of technology in electronics and combined that with our own adaptation of logical modelling modules to create a new and improved software suite that is able to assist in generating the superior treatment regimes for its controllers.

Known as Aquarius Proprietary Logic (APL), this unique program module has patent applications pending, and is featured in all new controllers in the Aquarius brand stable.

Aquarius Technologies Pty Ltd develops the most advanced water treatment controllers in today's market

Typical Applications

- Professional Swimming Pools
- Hydrotherapy Pools
- Training Pools
- Wading pools
- Water Features and Fountains
- Water Parks and Playgrounds

Swimming Pool Sizes

Models are available within the range to cover swimming pools from 10 m3 to over 1000 m3 water volume in standard units and operating on a range of chemistry parameters. Use of the Aquarius Pool_Calc template instantly selects and optimizes dosage pumps and equipment to suit both the particular swimming pool, and the particular water treatment chemistry regime. For systems larger than 1000 m3 volume Aquarius treats each of these jobs as a project and offers a total system with dosage pumps to meet the particular system specifications.

Water Treatment Chemistry

Models are available to cover Swimming Pool Water Treatment and disinfection programs utilizing:

- Sodium Hypochlorite solutions with Liquid Acid such as hydrochloric acid for pH control.
- Sodium Hypochlorite solutions with CO2 gas (Carbon Dioxide) as the acid for pH control.
- Electrolytic Chlorine Generators and with Liquid Acid or With CO2 as the acid source.
- Gaseous Chlorine with either Liquid Acid or CO2 for pH control.

Aquarius Technologies Pty Ltd Water Treatment Controllers have been developed over the past 17 years and examples of our control equipment can be found in Australia on professional pools, water theme parks, zoos and aquariums, 5 star Hotels, water features and fountains, Australian Parliament Building, and sold to New Zealand, Singapore, Malaysia, Korea, China, Thailand, India and Pakistan.

Introducing the ALL NEW family of **Swimming Pool Disinfection Controllers** for applications in water disinfection programs

Features

- Automated water treatment management system – chemical dosage is regulated based on the demand from the system, whilst maintaining the set desired parameters for efficient water treatment and disinfection.
- Adapts to user configured/specified water treatment chemical regimes.
- Combination probes – pH/ORP/Ground Ref and Conductivity/Temperature/Flow allow for a compact unit with maximum data for control and logging.
- Data logging of all measured parameters and dosages with internal storage in excess of 30 days of data, on 24/7 basis.
- Optional ModBus protocol to provide data to BCMS.
- Optional 4 – 20 mA outputs for data to BCMS.
- Option for remote control on 24/7 basis allows for:

  a) SMS Alarms to 3 nominated phone numbers

  b) Remote data downloads and/or remote changing of set point values using a GSM modem and Aquarius AquaGuard 2 software

  c) SP_graphs.xlt template allows for automatic import of data into an Excel spreadsheet which provides a Data Summary, Trend Charts or Graphs and Histograms for simple and easy inclusion in client reports.
- All “S” models allow for superchlorination routines to be programmed at various scheduled intervals or commenced directly should the need arise.
- APL – Aquarius Proprietary Logic has been introduced to control oxidising biocide dosage (ORP) and pH control with pin-point accuracy to set point. The introduction of this breakthrough technology is a reflection of our commitment to provide superior products that enhance your water treatment control options and benefits to your site
- LSI – Langelier Saturation Index values are calculated from a combination of sensor data and input of calcium hardness and displayed to allow for maximum system concentrations, minimum bleed off, conserving water and without scale forming.
- All Swimming Pool Controllers are built to a Quality Assurance system, weatherproof to IP65 standard, and come with 12 months warranty. - See full Warranty details in the User Manual.

User Benefits

- All Aquarius Controllers are designed by our professional R & D team with over 40 years of water treatment chemistry experience. Since 1989 this speciallised team has been developing control and dosage equipment for the water treatment industry. The Aquarius R & D team currently comprises water treatment chemists, computer programmers, and electronic technicians; all pooling their knowledge and effort to enhance the development of water treatment dosage and control equipment by utilising the latest in computer and electronic technology with electrochemistry principles.
- Options for remote control on 24/7 basis allows for:

  a) SMS Alarms to 3 nominated phone numbers

  b) Remote data downloads and/or remote changing of set point values using a GSM modem and Aquarius AquaGuard 2 software

  c) SP_graphs.xlt template allows for automatic import of data into an Excel spreadsheet which provides a Data Summary, Trend Charts or Graphs and Histograms for simple and easy inclusion in reports.
- All “S” models allow for superchlorination routines to be programmed at various weekly schedules or commenced remotely when chloramines become a problem.
- With Aquarius Swimming Pool Controllers you can choose models to accommodate
- Sodium Hypochlorite solutions with Liquid Acid such as hydrochloric acid for pH control.
- Sodium Hypochlorite solutions with CO_2 gas

  (Carbon Dioxide) as the acid for pH control.
- Electrolytic Chlorine Generators and with Liquid Acid or with CO_2 as the acid source.
- Gaseous Chlorine with either Liquid Acid or CO_2 for pH control.
- Aquarius delivers efficient and economical solutions with our unique firmware and software programs and our enhanced chemical injection technology offering the owner:-

  a) Savings in water costs and chemicals usage

  c) 24/7 supervision of your disinfection treatment program

  d) 24/7 Alarms relayed to service personnel by mobile phone for rapid response and correction

  e) Programmed or remote start up of superchlorination

  f) Historical Records of the chemistry, disinfection parameters and the various dosages in case of need in litigation

  g) Peace of Mind that your pool and disinfection regime is being maintained at “worlds best practice” standards

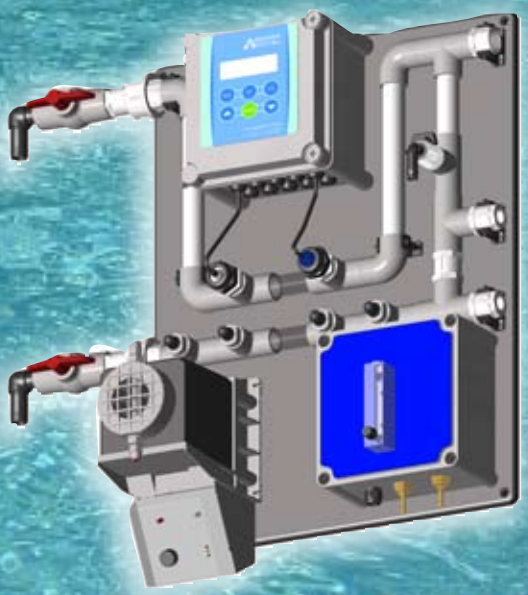
SC - Series

Sodium Hypochlorite

and CO_2 gas

for

Pools less than 500 kL



SC - Series

Sodium Hypochlorite

and CO_2 Gas

for

Pools up 2500 kL

SL - Series

Sodium Hypochlorite

and Hydrochloric acid

for

Pools up 2500 kL

"S" Series - General Specifications for Swimming Pool Disinfection Controllers				
Enclosure	Fully Weatherproof rated to IP53 - Protect from freezing - maximum ambient 40 ^{0}C.			
Electrical Supply	220 - 250 Vac 50 or 60 Hz, 10 Amp continuously powered "clean" mains supply - 7 Amp output relays.			
Microprocessor (16 bit 20 MHz)	Industrial quality microprocessor, supports proprietary firmware, including boot loader for upgrade of software via the serial port. Data logging is a standard feature. When combined with remote comms package - the unit is capable of transmitting alarms by SMS to 3 phones. Using AquaGuard 2 software all settings, statuses, and downloads can be modified or determined remotely from a PC.			
Sensors **PR_FCT** **PR_pHRG**	Units are shipped with combination sensors as required for the configuration. Combination sensor for Flow/Conductivity/Temperature. Combination sensor for pH/ORP/Ground Reference. These probes are designed to reduce external influences to ensure more accurate readings.			
Module Designation	**pH - values**	**ORP - millivolts**	**Conductivity - mS/cm**	**Temperature as ^{0}C**
Operating Range	0 - 14.00 pH	0 - 999 mV	0 - 9.99 mS/cm	0 - 100 ^{0}C
Resolution	0.01 pH	1 mV	0.01 mS/cm	0.1 ^{0}C
Accuracy	+/- 0.02 pH	+/- 1 mV	+/- 0.02 mS/cm	+/- 0.2 ^{0}C
Repeatability	+/- 0.02 pH	+/- 2 mV	+/- 0.01 mS/cm	+/- 0.2 ^{0}C
Alarm Range	+/- 0 - 3.5 pH	+/- 0 - 400 mV	+/- 0 - 2.0 mS/cm	+/- 0 - 20.0 ^{0}C
Dead Band	N/A	N/A	0.05 mS/cm	N/A
Control Type	APL	APL	ON/OFF	N/A
Sensor Press. Rating	700 kPa.	700 kPa.	700 kPa.	700 kPa.
Sensor Temp Rating	60 ^{0}C	60 ^{0}C	60 ^{0}C	60 ^{0}C
Alarms User Defined	All defined set points are able to be associated with alarm outputs as +, -, or +/- ranges. The Alarm signals may be directed to various output destinations.			
Data Logging	Data logging of analog readings and the pump ON times is standard - Data logging can be set from 1 min to up to 240 minutes intervals. At 30 minute intervals the data log can contain up to 45 days data or approx. 2400 lines of data, downloadable either locally to a laptop or remotely via a GSM modem.			
Calibration	All measures are auto calibrated using the CAL Screen selection window. pH/ORP Calibration and verifcation can be performed as a combined calibration with less time needed on site.			
Dosage of Chemicals Dosage Pumps	The Aquarius range of peristaltic pumps rated at 1.0 l/h or 3.0 l/h and rated to 350 kPa. are specifically designed for this application. Larger pumps or higher pressure pumps are available where required.			
Manifold Ratings Press. & Temp. rating Flow rate required Plumbing	Manifolds are designed from uPVC and rated to 700 kPa at 50 ^{0}C - Maximum Temperature = 65 ^{0}C. A minimum flow rate of 8 - 10 lts/minute is required to activate the flow sensor. Plumbing inlet and outlets are 20 mm BSP fem. threads or can be fitted with 19 mm hose tails.			
SuperChlorination	Superchlorination routine is a feature in the range. When activated it may be necessary to add an additional dosage pump to ensure the dosage and set level is reached in the specified time.			
Remote Control Options	When fitted with optional modem the unit is capable of transmitting alarms by SMS to 3 phones. When combined with the remote communications package using AquaGuard 2 software all settings, statuses, and downloads or superchlorinaation can be modified or determined remotely from a PC.			
pH Dosing	pH level can be monitored or controlled in **Flow/Continuous/Off** mode and is managed to a tighter set point using APL software.			
APL Software	Aquarius Proprietary Logic application software is specifically programmed to initiate intelligent responses to inputs. Through consistent monitoring, calculating and responding, it narrows the variation in hysterisis to 1%, optimising water treatment control for accurate Set Point retention.			
Display/Key Pad	Incorporates 4 lines x 20 (80 char) digital backlit display with touchpad operation. This ensures clarity even in low or non-lighted locations.			
Flow Sensing	Flow Sensing can be individually controlled for ORP and pH module to allow for site specific requirements.			
Test and Priming Screen	Auto test can be initiatied on all relay outputs and manual pump priming can be activated without varying the settings of the controller.			
Safe Memory	Our PCB board incorporates a non-volatile memory for safe storage of set points and programs that are not susceptible to power loss.			

Pools using Sodium Hypochlorite and CO2 Gas (Carbon Dioxide)				
Detail Specifications	**SC100WP**	**SC101**	**SC103**	**SC106**
Maximum Pool Volume in Kilolitres	10 000 kL	Max 100 kL	Max 500 kL	Max 1000 kL
pH Control - Acid dosage	CO2 gas controller	CO2 gas controller	CO2 gas controller	CO2 gas controller
Dose Pump - Hypochlorite	As Selected	1.0 lts/hr	3.0 lts/hr	2 x 3.0 lts/hr
Dose Pump Type	As Selected	Peristaltic		
Dose Pump Press. Rating	As Selected	350 kPa.		
Sensors fitted	Both PR_FCT and PR_pHRG			
Shipping Dim. and Weight	Cartons are 520 mm x 620 mm x 200 mm and cubed shipping weight is 18 kgs.			
Communications Port	Interfaced to any RS232 device via the DB9 plug on the circuit board internally located.			
Options on these models Socket Outputs (WP)	Weatherproof isolated power socket outlets, relay activated, comes in 10 Amp and 15 Amp mains supply.			

Pools using Electrolytic Chlorine Generators and pH Control				
Detail Specifications	**SE100WP**	**SE110**	**SE130**	**SE100C**
Maximum Pool Volume in Kilolitres	10 000 kL	500 kL	1000 KL	1000 kL
Dose Pump - Acid	As Selected	1.0 lts/hr	1.0 lts/hr	CO2 gas controller
Chlorine Dosage	Electrolytic	Electrolytic	Electrolytic	Electrolytic
Dose Pump Type	As Selected	Peristaltic		N/A
Dose Pump Press. Rating	As Selected	350 kPa.		N/A
Sensors Fitted	PR_FCT and PR_pHRG			
Shipping Dim and Weight	Cartons are 520 mm x 620 mm x 20 mm and cubed weight is 18 kgs.			
Communications Port	Interfaced to any RS232 device via the DB9 plug on the circuit board .			
Options on these models Socket Outputs (WP)	Weatherproof isolated power socket outlets, relay activated, comes in 10 Amp and 15 Amp mains supply.			

Pools using Sodium Hypochlorite and Hydrochloric Acid				
Detail Specifications	**SL100**	**SL111**	**SL113**	**SL136**
Maximum Pool Volume in Kilolitres	10 000 kL	100 kL	500 kL	1000 kL
Dose Pump - Hydrochloric Acid	As Selected	1.0 lts/hr	1.0 lts/hr	3.0 lts/hr
Dose Pump - Sodium Hypochlorite	As Selected	1.0 lts/hr	3.0 lts/hr	2 x 3.0 lts/hr
Dose Pump Type	As Selected	Peristaltic		
Dosage Pump Press. Rating	As Selected	350 kPa.		
Sensors Fitted	PR_FCT and PR_pHRG			
Shipping Dim and Weight	Cartons are 520 mm x 620 mm x 20 mm and cubed weight is 18 kgs.			
Communications Port	Interfaced to any RS232 device via the DB9 plug on the circuit board.			
Options on these models Socket Outputs (WP)	Weatherproof isolated power socket outlets, relay activated, comes in 10 Amp and 15 Amp mains supply.			

Options and Accessories for Remote Control and Alarms	
GSM Modem	Provides for Alarms outputs to 3 nominated phone numbers via the mobile GSM network and for full remote control using AquaGuard 2 software.
Landline Modem	Provides for remote communications via Landline Phone connection where the GSM network is not available.
AquaGuard 2 software	Software for full remote control from a PC, change set points, start up disinfection, download data, and import to CWT_graphs.xlt for water treatment summary, trend charts, and a database history of results in case of litigation, all from your office or laptop via the mobile data network.
ModBus	Industry standard protocol for data communications between BMS and controller
BMS 4 - 20 mA outputs	Plug on card provides 4 analog signals as 4 - 20 mA + 4 events as contact only signals - means of data transfer to BMS system.

Other Options to complete and maintain the system	
4 - 20mA Analogue Input	Accepts a 4-20mA signal from a stand-alone meter. Data are displayed on the Aquarius Controller and data-logged. Alarm can also be activated via SMS.
SS_RACK	Stainless steel skid and base for mounting the controller, circulation pump and BCD feeder in a neat compact package.
Circulating Pumps	A range of circulation pumps are available for independent circulation of the system or to provide adequate flow and pressure to the controller.
Buffers and Calibration solutions	Aquarius can supply all buffers, calibration solutions and standards for maintaining the system at worlds best practice standard.
Spare Parts and Replacements	Aquarius maintains a huge stock of spare and replacement parts for quick and easy delivery via overnight freight.
ON - SITE Service	Aquarius has trained contractors to carry out installation, commissioning, and or trouble shooting and repairs in all state capital cities of Australia.
Technical Bulletiins	Visit our web site at www.aquariustech.com.au for a range of Technical Bulletins to provide education and background to the water chemistry involved.

Other Sales Bulletins from Aquarius

KPI Intelligent Water Treatment Controllers
Cooling Water Treatment Controllers
Trade Waste or Effluent Controllers
Potable Water Disinfection Controllers
AquaGuard 2 Water Treatment Management Software
and remote control interface from a PC
Aquarius Peristaltic Pumps Range

Distributed By

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